

**WHAT IS CLAIMED IS:**

- 1     1.    A method comprising:
  - 2                 determining a type of endian conversion to be
  - 3                 performed on a portion of data stored within a memory
  - 4                 system; and
  - 5                 writing a table entry to a memory management table
  - 6                 that specifies the type of endian conversion to be
  - 7                 performed on the portion of data.
- 1     2.    The method of claim 1 wherein writing a table entry to a
- 2            memory management table further includes specifying the
- 3            location of the portion of data within the memory system.
- 1     3.    The method of claim 1 wherein the type of endian
- 2            conversion is a data coherent conversion.
- 1     4.    The method of claim 1 wherein the type of endian
- 2            conversion is an address coherent conversion.
- 1     5.    The method of claim 1 wherein the table entry includes a
- 2            single bit for specifying one of two types of endian
- 3            conversion.
- 1     6.    The method of claim 1 wherein the table entry maps a
- 2            virtual memory address to a physical memory address.

- 1     7.    A method comprising:
  - 2                 maintaining a memory management table that includes
  - 3                 one or more table entries, each table entry defining a
  - 4                 location of a portion of data stored within a memory
  - 5                 system and a type of endian conversion to be performed on
  - 6                 the portion of data.
- 1     8.    The method of claim 7 wherein the type of endian
- 2           conversion is a data coherent conversion.
- 1     9.    The method of claim 7 wherein the type of endian
- 2           conversion is an address coherent conversion.
- 1     10.   The method of claim 7 wherein the table entry includes a
- 2           single bit for specifying one of two types of endian
- 3           conversion.
- 1     11.   The method of claim 7 wherein the portion of data is
- 2           stored at a physical memory address within a memory system.
- 1     12.   The method of claim 11 wherein the table entry maps the
- 2           physical address at which the portion of data is stored to a
- 3           virtual address accessible by a processor.
- 1     13.   A computer program product residing on a computer
- 2           readable medium having a plurality of instructions stored

thereon which, when executed by the processor, cause that processor to:

determine a type of endian conversion to be performed on a portion of data stored within a memory system; and

write a table entry to a memory management table that specifies the location of the portion of data within the memory system and the type of endian conversion to be performed on the portion of data.

14. The computer program product of claim 13 wherein the type of endian conversion is a data coherent conversion.

15. The computer program product of claim 13 wherein the type of endian conversion is an address coherent conversion.

16. The computer program product of claim 13 wherein the table entry includes a single bit for specifying one of two types of endian conversion.

17. The computer program product of claim 13 wherein the table entry maps a virtual memory address to a physical memory address.

18. A computer program product residing on a computer readable medium having a plurality of instructions stored

3     thereon which, when executed by the processor, cause that  
4     processor to:

5             maintain a memory management table that includes one  
6             or more table entries each table entry defining a  
7             location of a portion of data stored within a memory  
8             system and a type of endian conversion to be performed on  
9             the portion of data.

1     19.   The computer program product of claim 18 wherein the type  
2     of endian conversion is a data coherent conversion.

1     20.   The computer program product of claim 18 wherein the type  
2     of endian conversion is an address coherent conversion.

1     21.   The computer program product of claim 18 wherein the  
2     table entry includes a single bit for specifying one of two  
3     types of endian conversion.

1     22.   The computer program product of claim 18 wherein the  
2     portion of data is stored at a physical memory address within  
3     a memory system.

1     23.   The computer program product of claim 19 wherein the  
2     table entry maps the physical address at which the portion of  
3     data is stored to a virtual address accessible by a processor.

1 24. A memory management table residing in computer memory  
2 comprising:

3 one or more table entries, with each table entry  
4 having a first field for defining the location of a  
5 portion of data stored within a memory system and a  
6 second field for defining a type of endian conversion to  
7 be performed on the portion of data.

1 25. The memory management table of claim 24 wherein each  
2 table entry includes a single bit for specifying one of two  
3 types of endian conversion.

1 26. The memory management table of claim 25 wherein one type  
2 of endian conversion is a data coherent conversion.

1 27. The memory management table of claim 25 wherein one type  
2 of endian conversion is an address coherent conversion.

1 28. The memory management table of claim 25 wherein each  
2 table entry maps a virtual memory address to a physical memory  
3 address.

1 29. A system comprising:

2 a first processor for processing data in a first  
3 endian format;

4           a second processor for processing data in a second  
5       endian format;

6           a bus for interconnecting the first and second  
7       processors;

8           an endian converter for converting portions of data  
9       from the first endian format to the second endian format;  
10      and

11          a memory management table including one or more  
12      table entries, with each table entry defining a location  
13      for a portion of data to be converted from the first  
14      endian format to the second endian format, and a type of  
15      endian conversion to be performed on the portion of data  
16      by the endian converter.

1    30. The system of claim 29 wherein the type of endian  
2    conversion is a data coherent conversion.

1    31. The system of claim 29 wherein the type of endian  
2    conversion is an address coherent conversion.

1    32. The system of claim 29 wherein the first processor is a  
2    little-endian processor.

1    33. The system of claim 29 wherein the second processor is a  
2    big-endian processor.

1 34. A computer architecture comprising:

2 a networking device, including:

3 a first processor for processing data in a  
4 first endian format;

5 a second processor for processing data in a  
6 second endian format;

7 a bus for interconnecting the first and second  
8 processors;

9 an endian converter for converting portions of  
10 data from the first endian format to the second  
11 endian format; and

12 a memory management table including one or more  
13 table entries, wherein each table entry defines a  
14 location for a portion of data to be converted from  
15 the first endian format to the second endian format,  
16 and a type of endian conversion to be performed on  
17 the portion of data by the endian converter.

1 35. The architecture of claim 34 wherein the type of endian  
2 conversion is a data coherent conversion.

1 36. The architecture of claim 34 wherein the type of endian  
2 conversion is an address coherent conversion.

1 37. The architecture of claim 34 wherein the first processor  
2 is a little-endian processor.

1 38. The architecture of claim 34 wherein the second processor  
2 is a big-endian processor.

1 39. A method comprising:  
2           accessing a table entry of a memory management  
3           table, wherein the table entry is associated with a  
4           portion of data stored within a memory system and  
5           includes a conversion-type indicator; and  
6           determining a type of endian conversion to be  
7           performed on the portion of data based on the conversion-  
8           type indicator.

1 40. The method of claim 39 wherein the type of endian  
2 conversion is a data coherent conversion.

1 41. The method of claim 39 wherein the type of endian  
2 conversion is an address coherent conversion.

1 42. The method of claim 39 wherein the conversion-type  
2 indicator includes a single bit for specifying one of two  
3 types of endian conversion.



1 43. A computer program product residing on a computer  
2 readable medium having a plurality of instructions stored  
3 thereon which, when executed by the processor, cause that  
4 processor to:

5 access a table entry of a memory management table,  
6 wherein the table entry is associated with a portion of  
7 data stored within a memory system and includes a  
8 conversion-type indicator; and

9 determine a type of endian conversion to be  
10 performed on the portion of data based on the conversion-  
11 type indicator.

1 44. The computer program product of claim 43 wherein the type  
2 of endian conversion is a data coherent conversion.

1 45. The computer program product of claim 43 wherein the type  
2 of endian conversion is an address coherent conversion.

1 46. The computer program product of claim 43 wherein the  
2 conversion-type indicator includes a single bit for specifying  
3 one of two types of endian conversion.

1 47. A method comprising:

2 determining a type of endian conversion to be  
3 performed on a portion of a page stored within a memory  
4 system; and

5           writing a table entry to a memory management table  
6           that specifies the type of endian conversion to be  
7           performed on the portion of the page.

1    48.   The method of claim 47 wherein writing a table entry to a  
2    memory management table further includes specifying the  
3    location of the portion of the page within the memory system.

1    49.   The method of claim 47 wherein the type of endian  
2    conversion is a data coherent conversion.

1    50.   The method of claim 47 wherein the type of endian  
2    conversion is an address coherent conversion.